

1d
10

The preparation and uses of styrene. N. N. Muta-
vilya. J. Chem. Ind. (U. S. S. R.) 10, No. 21, 18-21
(1941).—Review with 60 references. H. M. Leicester

A10 111.4 METALLURGICAL LITERATURE CLASSIFICATION

MOTOVILCOVA, N. N., and KOROTKOV, A. A.

"Polymerization with Na-alkyls and structure of the resulting polymers,"
a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers,
20 Jan-2 Feb 57, Moscow, Rubber Research Inst.

B-3,254,325

Motovilova IV

AUTHORS: Yakubchik, A. I., Motovilova, N. N. 72-2-31/64

TITLE: On the Structure of the Potassium Divinyl Polymer (O struk-
ture kaliy- divinilovogo polimera).

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 2, pp. 421-424 (JSSR)

ABSTRACT: The percental content of groups with external 1,2- (-CH-CH₂-) and internal 1,4-(-CH₂-CH=CH-CH₂-) double ^{CH}₂ bindings as well as their influence on the polymerization depth and the properties of the polymer, the nature of the alkaline metal as polymerization stimulans, and the reaction temperature were investigated. The product of the polymerization of divinyl in the gas phase, under the influence of potassium, was used as polymer. Compared with SKB-Caoutchouc it showed favorable differences in the properties which is obtained by polymerization of divinyl in the presence of sodium. The method of ozonolysis according to Harries was used in the investigations. The method according to Finke was used for the determination of the formic acid produced on this occasion, whereas formaldehyde was determined according to Foss. The determination of the quantities of the 1,2- and 1, β - groups in the polymers was carried out according to A. A. Vasil'yev with iodine bromide (which yields more reliable results than iodine

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On the Structure of the Potassium Divinyl Polymer.

79-5-51/64

chloride). The elementary analysis served for the determination of the oxidation stages of the purified 1,2-polymer, whereas the polymerization depth was expressed by the "increase" of the polymer g/1 g metal. The results obtained are given in the tables. The carrying out of the experiments is discussed. The results are the following: with the increase of the polymerization depth decreases a little the content of groups with external double binding (1,2-) which is confirmed by the parallel decrease of the vitrification temperature of the polymer as well as by the increase of the freezeproofness coefficient of the vulcanisate. Among other this phenomenon is explained by the increase of the actual polymerization temperature. The number of groups with internal double binding (1,4-) does practically not change, the results obtained are, however, insufficient for quantitative conclusions. There are 3 tables, 13 references, 5 of which are Slavic.

ASSOCIATION: All-Union Scientific Research Institute for Synthetic Rubber
(Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka).

SUBMITTED: January 14, 1957

AVAILABLE: Library of Congress
Card 2/2

NOTOVILLOVA, N.N.

Polymerization of isoprene. Kauch. i rez. 23 no.5:36-43 My '64.
(MIRA 17:?)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo
kauchuka im. S.V. Lebedeva.

MOTOVILOVA, N.N.

Separation of polymers from the reaction mixture; review. Kauch.
1 rez. 23 no.12:31-37 D '64. (MIRA 18:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo
kauchuka im. S.V.Lebedeva.

MOTOVILOV, G.N.; BUL'YINA, I.Y.

Stereospecific polymerization of methacrylate esters. I.
I rez. 24 no.4:35-38 Ap '65.

I. Vseoseyannyy reaktsionnyy ustoychivyy iant' u "Sinteksa"
Zhuchka im S. V. Lebedeva.

SAMOLETOVA, V.V.; MOKVILLOVA, N.N.

Obtaining low-molecular polymers of 1,3-dienes with two phenyl
enyl-groups. Kauch. i rez. 24 no.7:29-33 St. 165. (USSR 1972)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo
kauchuka im. S.V.Lebedeva.

ACC NR: AP7005430

SOURCE CODE: UR/0138/66/000/005/0004/0010

AUTHOR: Motovilova, N. N.; Starovoytova, Yo. I.

ORG: All-Union Scientific Research Institute of Synthetic Rubber im. S. V.

Lebedev (Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka)

TITLE: Organosilicon compounds containing heteroatoms (Phosphorus, boron)

SOURCE: Kauchuk i rezina, no. 5, 1966, 4-10

TOPIC TAGS: organosilicon compound, polysiloxane

ABSTRACT: In addition to the high molecular weight organoelemental compounds in which heteroatoms (titanium, tin, lead, germanium, aluminum, boron, phosphorus etc.) are found in the side groups, polymers with heteroatoms in the main chain surrounded by organic radicals have acquired much importance recently. The introduction of heteroatoms in the main chain of polysiloxane as well as into the side organic radicals contributes to a significant improvement in a number of their properties, (thermal stability, water resistance, radiation stability, etc). The patent literature of foreign countries, devoted to the problems of obtaining and using organosilicon compounds (monomers, homopolymers and co-polymers) containing phosphorus and boron are examined in this article.

A number of polymers and the ways to obtain them are described. Orig.
art. has: 8 formulas. JPRS: 38,970

SUB CODE: 07 / SUBM DATE: 19May65 / OTH REF: 038

Card 1/1

IMR. 670 01 517 05 001 11 0000 01

ACCESSION NR: AP4041058

S/0120/64/000/003/0220/0221

AUTHOR: Motovilov, O. A.

TITLE: System for transmitting rotation into a vacuum

SOURCE: Pribory* i tekhnika eksperimenta, no. 3, 1964, 220-221

TOPIC TAGS: vacuum rotation, magnetic drive, driving magnet, driven magnet, vacuum mechanical motion

ABSTRACT: A magnetic drive used to rotate sample holders in vacuum systems designed for the deposition of thin-layer optical coatings is described. A substantial deficiency of known structures of magnetic drives of this type is the relatively weak interaction between the driving and the driven magnets, since the latter are placed on both sides of the cylindrical or spherical vacuum chamber's wall, which is usually quite thick, and, therefore, are located at a considerable distance from each other. In the structure described, magnets M_1 (driving) and M_2 (driven) are separated from each other by a thin but sufficiently rigid membrane made of 1.5-mm thick brass (see Fig. 1 of the Enclosure). The upper part of brass container P containing the drives is

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ACCESSION NR: AP4041058

hermetically sealed and its conical part is ground to the opening of the plate of the vacuum system. Through the regulation of nuts C₁ and C₂, the gaps between the magnets may be reduced to a few tenths of a millimeter. Magnets made of ANKO-4 alloy with an 80-mm diameter provide a reliable transmission of torque up to 300 gcm. The power used to rotate the drive itself is negligible and high angular speeds are possible. The metallic membrane may be replaced by one made from a dielectric in order to avoid strong heating of the membrane by eddy currents when high rotating speeds are attained. In this type of drive there is no rigid connection between the driving and the driven shafts; when loads are uneven, undesirable mutual angular shaft oscillations may occur. This can be avoided by using multiple magnet systems in the drive. Orig. art. has: 2 figures.

ASSOCIATION: Gosudarstvennyy opticheskiy institut (State Optical Institute)

SUBMITTED: 27 May 63 ATD PRESS: 3063 ENCL: 01

SUB CODE: IE. P. NO REF Sov: 001 OTHER: 000

Card 2/3

ACCESSION NR: AP4041058

ENCLOSURE: 01

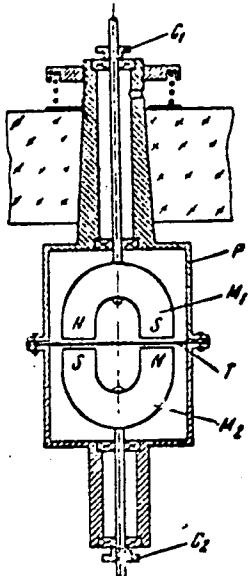


Fig. 1. Diagram of the drive mechanism

C₁ & C₂ - Regulating nuts; P - brass container for drive mechanism;
M₁ - driving magnet; M₂ - driven magnet;
T - hermetically sealed separating membrane.

3 / 3

MOTOVILOV, V. V., kand. tekhn. nauk, dotsent; POLYAKOVA, N. A., kand. tekhn. nauk, dotsen.

Remote signaling system for close range operation in conjunction with a telemetering system. Izv. vys. ucheb. zav.; energ. 7 no.5: 99-103 My '64.

1. Kubyshevskiy politekhnicheskiy institut imeni Ruybyanova.
Predstavlena kafedroy elektricheskikh stantsii.

MOTOVILOV, V.V., kand. tekhn. nauk, dozent (partizan), TAB'DAR V. V. I.,
tnzh.

Remote signaling system for industrial enterprises. Izv. vys.
ucheb. zav.; energ. 7 no.118107-lil N 164 (MIRA 18sl)

1. Kuybyshevskiy politekhnicheskiy institut imeni V.V. Kuybysheva.
Predstavlena kafedroy elektricheskikh stantsii.

MOTOVILOVA, T.P.

Effect of reserpine on the secretory function of the gastro-intestinal tract. Farm. i toks. 26 no. 68674-676 N-B '63
(MIRA 18:2)

1. Kafedra farmakologii (zav. - deystvitel'nyy chlen AMN SSSR prof. G.V. Anichkov) Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.

MOTOVILOVA, Ye.A.

ZAYTSEVA, N.M., kandidat meditsinskikh nauk; AZAROVA, S.A., ordinator;
TYURIN, N.A., ordinator; MOTOVILOVA, Ye.A., ordinator

Oxygen treatment for ascariasis. Pediatriia no.3:69-72 Ky-Je '54.
(MLRA 8:1)

l. Is kliniki detskikh bolezney (zaveduiushchiy kafedroy -
deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR professor
Yu.F.Dombrovskaya) I Moskovskogo ordena Lenina meditsinskogo in-
stituta.

(ASCARIDS AND ASCARIASIS) (OXYGEN--THERAPEUTIC USE)

MOTOVILOVETS, I.A., student V kursa.

Determining temperatures in a disk with uniform thickness. Stud.
nauk.pratsi no.16:65-72 '55. (MLRA 10:2)
(Disks, Rotating) (Thermometry)
(Differential equations)

MOTOVILOVETS, I. A. Cand Phys-Math Sci -- (diss) "Nonstationary
Heat Conduction in a Finite-Length Hollow Cylinder." Kiev, 1957.
Cover, 4 pp 21 cm. (Min of Higher Education Ukrainian SSR, Kiev
State Univ im T. G. Shevchenko), 100 copies (KL, 25-57, 109)

- 12 -

SHVETS, Ivan Trofimovich; DYBAN, Yevgeniy Pavlovich. Prinimali uchastye:
SELYAVIN, G.P., kand.tekhn.nauk; MOTOVILOVETS, I.A., kand.fiziko-
matemat.nauk. ORLIK, Ye.L., red.; KHOKHANOVSKAYA, T.I., tekhn.red.

[Air cooling of gas turbine runners] Vozdushnoe okhlazhdenie
rotorov gazovykh turbin. Kiev, Izd-vo Kievskogo univ., 1959.
(MIRA 12:7)

349 p.
(Gas turbines--Cooling)

PHASE I BOOK EXPLOITATION

Soviet

Akademicheskaya Nauka Turbin i Turbostroeniya R.S.R. Institut bud'vaniy' sverchnosti
Sistem termodinamicheskoy i ergogeneticheskoy ustroistvostsi
[Problems of Thermomechanics and
in Power-Machinery Construction] April, 1960. 170 p. 1,000 copies printed.

In Power-Machinery Construction] April, 1960. 170 p. 1,000 copies printed.

R.S.R. Rep. Ed.: N.M. Savin, Academician.

Ed. of Publishing House: T.I. Krasnushkina, Tech. Ed.: O.M. Lysorets,

Academy of Sciences U.S.S.R.; Tech. Ed.: O.M. Lysorets.

PURPOSE: This book is intended for turbine designers.

CONTENTS: This book is a collection of 6 Ukrainian articles based on work under the general supervision of A.D. Lovatski. Each article has a short summary in Russian. The object of the study is to set turbine elements for arbitrary conditions, especially those due to nonuniform heating. References accompany each article.

107
Petrovskov, I.O. Nonstationary Thermal Conductivity in a Cylinder of Finite Length

Kurnakov, V.P. and Z.D. Kosyuk. Investigation of Thermal Stresses in

Plates

109
Bogolyubov, N.N., M.I. Sosulin, and Iu.K. Sherbakov. Certain Methods of Solving an Initially Symmetrical Problem in the Theory of Elasticity by Means of a Grid Integration

110
Kornilishko, V.I. Investigation of Thermal Stresses in a Circular Plate of Varying Thickness by Means of the Integral or Differential Analyzer

111
AVAILABLE: Library of Congress

AC-A-470
10/14/60

Card 1/2

MOTOVILLOVETS, I.A. [Motovylovets, I.O.] (Kiyev)

Deriving equations for the heat conductivity of a
plate. Prykl.mekh. 6 no.3:343-346 '60.
(MIEA 13:8)

1. Institut mekhaniki AN USSR.
(Heat--Conduction)

MOTOVILOVETS, I.A. [Motovylovets', I.O.]

Closed solution of a problem in determining thermal stresses
in a disk with a nonstationary temperature field. Dop.
AN URSR no. 12:1589-1592 '60. (MIRA 14:1)

1. Institut mekhaniki AN USSR. Predstavлено akademikom AN USSR
F.P. Belyankinym.
(Elastic plates and shells) (Thermal stresses)

MOTOVILOVETS I. A.

PHASE I BOOK EXPLOITATION

SOV/6086

Nauchnoye soveshchaniye po teplovym napryazheniyam v elementakh turbomashin.
2d, Kiyev, 1961.

Teplovyye napryazheniya v elementakh turbomashin; doklady nauchnogo soveshchaniya, vyp. 2 (Thermal Stresses in Turbomachine Parts; Reports of the Scientific Conference, no. 2). Kiyev, Izd-vo AN UkrSSR, 1962. 174 p. 1800 copies printed.

Sponsoring Agency: Akademiya nauk Ukrainskoy SSR. Institut mekhaniki.

Resp. Ed.: A. D. Kovalenko, Academician, Academy of Sciences UkrSSR, Ed.: T. K. Remennik; Tech. Ed.: A. M. Lisovets.

PURPOSE: This collection of articles is intended for scientific workers and turbine designers.

Card 1/6

SOV/6086

Thermal Stresses (Cont.)

COVERAGE: The book contains 18 articles dealing with investigations connected with thermal stresses in turbine components. Individual articles discuss thermoelasticity, thermoplasticity, thermal conductivity, and temperature fields. No personalities are mentioned. References accompany 17 articles. The conference recommended broadening the theoretical and experimental investigations of aerothemoelastic and aerothermoplastic problems, the development of investigations of general problems of the theory of thermoelasticity and thermoplasticity based on the thermodynamic principles of reversible and nonreversible processes, the development of effective calculation methods for thermal stresses taking into account plastic deformations and creep in thin- and thick-walled structural members under stationary and nonstationary operating conditions, the development of experimental-research methods for thermometry and tensiometry in connection with modern operational conditions of mechanical structures, and the broadening of investigations of problems in the thermostrength of structures, especially of those operating under conditions of frequent and sharp temperature changes.

Card 2/6 3

MOTOVILOVETS, I.A. [Motovylovets', I.O.] (Kiyev)

Temperature field of an asymmetric sandwich plate. Prykl.
(MIRA 17-1,
mekh. 10 no.5:484-488 '64.

1. Institut mekhaniki AN UkrSSR.

L 8870-65 EWF(1)/EPF(c)/EPF(n)-2/EWP(r) Pr-l/Pr-l IJP(c)/BSD/AEDC(a)/AFMDC
ACCESSION NR: AP4046151 NW S/0198/64/010/005/0484/0488

AUTHORS: Motovy*lovets', I. O. (Motovilovets, I.A.) (Kiev)

B

TITLE: The temperature field of a three-layer asymmetrical plate

SOURCE: Pry*kladna mekhanika, v. 10, no. 5, 1964, 484-488

TOPIC TAGS: temperature field, heat exchange, heat flux

ABSTRACT: This paper presents a solution for equations of unsteady thermal conductivity of a three-layer asymmetrical plate, considering three types of boundary conditions. By means of the developmental theorem of operational calculus, the temperature fields of three-layer plates were obtained from this solution for the cases when: a) convective heat transfer takes place at the boundary surfaces or when the heat flux is defined, and b) when a given convective heat transfer applies to one surface and a given heat flux to the other. Orig. art. has: 12 equations.

ASSOCIATION: Insty*tut mekhaniky* AN URSR (Institute of Mechanics, AN URSR)

SUBMITTED: 300ct63

ENCL: 00

SUB CODE: TD

NO REF Sov: 004

OTHER: 000

Cord 1/1

MOTOWICKA, Teresa

POLAND

MOTOWICKA, Teresa; JUTA, Jan

Soil Science Department of the Institute of Cultivation,
Fertilization, and Soil Science (Zaklad Gleboznawstwa
i Uprawy, Nawozenia i Gleboznawstwa)
IUNG [Instytutu Uprawy, Nawozenia i Gleboznawstwa]

Warsaw, Przegad Geograficzna, No 2, 1961, pp 193-211.

"Importance of Ferruginous Concretions for the Stratigraphy of Some Sedimentary Rocks".

T. MOTRENCO

"Changes in spring wheat varieties sown at the beginning of winter." Tr. from the
Russian. p. 40. (ANALELE ROMANO-SOVIETICE. SERIA AGRICULTURA-ZOOTEHNIE, Vol. 6,
seria a II-a, no. 10, Apr./June 1952, Bucuresti, Rumania.)

SO: Monthly List of East European Accessions, L. C., Vol. 2, No. 7, July 1953, Uncl.

MOTRENKO, A.I.

~~MOTRENKO, A.I.~~

Structure of the human embryo at the end of the first month. Vrach.
delo no.10:1057-1060 O '57. (MIRA 10:12)

1. Akushersko-ginekologicheskoye otdeleniye Pervoy bol'niцы
Kaganovichskogo rayona g. Klyanova.
(EMBRYOLOGY, HUMAN)

MOTRENKO, A.I.

Development of a normal human embryo in ectopic pregnancy. Ped., akush.
i gin. 19 no.4:52-54 '57. (MIRA 13:1)

l. Akushersko-ginekologicheskoye otdeleniye 1-y bol'nitsy Lagano-
vichskogo rayona g. Kiyeva (glavnnyy vrach - O.I. Matruk).
(PREGNANCY, EXTRAUTERINE)

MOTREJKO, R. I., Cand Med Sci -- (ciss) "On the structure of the ~~embryo~~—
human embryo at the end of the first month of development," Kiev, 1960,

Crimea.

11 pp (~~Krepost~~ State medical Institute im. V. Stalin) (KL, DD-W, L//)

MOTRENKO, A.I., KARLAN, Yu.G.

Mobile electric laboratory. Energy efficiency of the Soviet
646" O.P. '63.

ADEYEVA, R.K.; MOTRENKO, I.V.

Lupus erythematosus in the oral cavity and on the red margin of
the lips. Teor. i prak. stom. no.6:145-147 '63. (MIRA 1963)

I. Iz kafedry kozhnykh i venericheskikh bolezney (zav. - prof.
B.M.Pashkov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

KOTREHO, N.

Mastering the "AVZh" apparatus. Mias.ind.SSSR 27 no.1:
20 '56.
(MLRA 9:6)

1. Nachal'nik shirovogo tsentral'nogo Kiyevskogo myasokombinata.
(Kiev--Packing houses—Equipment and supplies)

GRIEBERG, A.; MOTREMKO, M.

Extending mechanization in shops. Min.ind.SSSR 31 no.3:41-42
'60. (MIRA 13:9)

1. Kiyevskiy myasokombinat.
(Kiev--Meat industry--Equipment and supplies)

MOTRENKO, T. S.

COUNTRY : USSR
CATEGORY : Cultivated Plants, Cereals.
ABG. JOUR. : RZhBiol., No. 1, 1958, No. 104636
AUTHOR : Motrenko, T. S.
INST. : Academy of Sciences, USSR.
TITLE : Lodging in relation to Agricultural Technique and Varietal Characteristics of wheat.
ORIG. PUB. : Vses. Nauchno-Praktichesk. Zashch. No. 12, 1957,
611-523
ABSTRACT : In 1953 and 1954, experiments and observations on lodging of winter wheat sown in irrigated regions were conducted at Novosibirsk breeding station. In these years, a new type of lodging at the roots was observed owing to a large amount of powdery mildew. Losses of the winter wheat in winter went comprised up to 24.6 after severe lodging at the stage of blossoming. The following varieties of winter wheat of southern origin were examined in the P. S. with severe lodging: Adassakaya 1, Lritic's German 1-21, Alibra 16, Kartazovskaya which did not lodge, and Adassakaya 309 and a hybrid 389/43 which rose up by themselves.

Card: 4/2

COUNTRY :
CATEGORY :
ABS. JOUR. : RZhBiol., No. 1958, №. 10460

AUTHOR :
INST. :
TITLE :

OPIC. PUB. :

ABSTRACT : time, produced in the variety trials in the years 1955-57 - 27.0-28.4 quarters/ha. It is recommended to eliminate the spring and nitrogen dressings of winter wheat and the spring application of " under the spring wheat. In the conditions of Kostev oblast, high sowing rates for either winter or spring wheat are not recommended since they lower the yield in dry, hot years and intensify lodging with irrigation. -- .. V. Naksimova.

Card: 2/2

UMLB
Classification: CONFIDENTIAL - Soviet Projects. General Problems.

REF ID: A657

NAME: Motrenko, S.G.

ADDRESS: ---

TITLE: Meteorological Sketch of the Zone Occupied by Chernobyl State Selection Station

ORG. PUB.: Sb. nauchn.rabot. Chernobyl. pos-selists. g.t., 1957, vyp. 2, 7-9

NOTE: Data are cited on the amount of precipitation and relative humidity for 22 yrs. at the Chernobyl State Selection Station (Rostovskaya Oblast). The character of the meteorological factors reveals the urgent need to set up protective windbreaks and to develop rapid maturing varieties. -- G.V. Yekimukha

1/1

MOTRENKO, T.G., kand.sel'skokhozyaystvennykh nauk

Improving characteristics of winter wheat varieties by late
fall sowing and vernalization. Agrobiologija no.1:100-106
Ja-F '59. (MIRA 12:4)

1. Rostovskaya gosudarstvennaya selektsionnaya stantsiya.
(Wheat--Varieties)
(Vernalization)

MOTRENKO, V.

Efficiency promoters of an enterprise. Mias.ind.SSSR 31 no.1:
48 '60. (MIRA 13:5)

1. Vinnitskiy myasokombinat.
(Vinnitsa--Packing houses--Equipment and supplies)

MOTRENKO, V.A., podpolkovnik med.slyshby

Expert evaluation's decisions following meniscotomy. Voen.-med.
zhur. no.2:47 F '60. (MIRA 13:5)
(~~KMM~~ surgery)

MOTRENKO, Ya. G.

A case of in vivo "experimental" hypertension complicated by
a thromboembolic syndrome. Vrach.delo no.3:289 Mr '59.
(MIRA 12:6)

1. Kafedra terapii (zav. - prof.T.T.Glukhen'kiy) Kiyevskogo
meditsinskogo instituta i klinicheskaya bol'nitsa imeni
Kalinina. (HYPERTENSION) (EMBOLISM)

MOTIENKO, Ya. G.

Intravital diagnosis of intracardiac thrombi. Vrach.delo no.12:
(MIRA 13:5)
1321 D '59.

1. Kafedra gospital'noy terapii (sav. - prof. T.T. Glukhen'kiy)
Kiyevskogo meditsinskogo instituta i bol'nitsa im. Kalinina.
(HEART--DISEASES) (THROMBOSIS)

MOTRENKO, Ya.G. (Kiyev)

Treatment of constrictive pericarditis. Vrach. delo no. 3:56-60
(MIRA 14:4)
Mr '61.

1. Klinika grudnoy khirurgii (zav. - prof. N.M. Amosov) Ukrainskogo
nauchno-issledovatel'skogo instituta tuberkulesa imeni F.G.
Yanovskogo.
(PERICARDITIS)

MOTRENKO, Ya.G.

Pseudomonas aeruginosa as the pathogen of pneumonia. Vrach.delo
no.2:142-143 F '63. (MIRA 16:5)

1. Klinika torakal'noy khirurgii (zav. - chlen-korrespondent
AMN SSSR, prof. N.M. Amosov) Kiyevskogo instituta tuberkuleza.
(PNEUMONIA) (PSEUDOMONAS)

AMOSOV, N.M., prof.; BEREZOVSKIY, K.K., kand.med.nauk; BABLYAK, D.Ye.;
MOTRENKO, Ya.G.; TISHENKO, S.S.

Late results of mitral commissurotomy. Khirurgia no.10:3-8 '64.
(MIRA 18:8)

1. Klinika serdechnoy khirurgii (zav. - prof. N.M.Amosov)
Ukrainskogo nauchno-issledovatel'skogo instituta tuberkuleza i
grudnoy khirurgii (dir. - dotsent A.S.Mamolat).

USSR/Zooparasitology. Parasitic Protozoa. Sporozoa.

G

Abs Jour: Ref. Zhur. - Biol., No 23, 1958, 103996

Author : Motrich, T. A.

Inst : Leningrad Scientific Research Veterinary
Institute

Title : From Observations on Experimental Anaplasmosis
of Long-Horned Cattle.

Orig Pub: Byul. nauchno-tekhn, inform. Leningr. n.-i.
vet. in-ta, 1957, No 4, 28-30

Abstract: No abstract

Card 1/1

MOTRICH, T. A.

"Investigations Into Experimental Anaplasmosis of Cattle."

Tenth Conference on Parasitological Problems and Diseases with Natural
Reservoirs, 22-29 October 1959, Vol. II, Publishing House of Academy of
Sciences, USSR, Moscow-Leningrad, 1959.

Leningrad Scientific-Research Veterinary Institute

MOTRICH, T. A., Cand Vet Sci-- (diss) "Study of anaplasmosis in large cattle." Leningrad, 1960. 20 pp; (Ministry of Agriculture RFSR, Leningrad Veterinary Inst); 250 copies; price not given; list of author's work at end of text (11 entries); (KL, 22-60, 142)

GUSEV, V. F., STUPNIKOV, A. A., BASHMURIN, A. F., MOTRICH, T. A. and VIL'NER, E. A.
(Leningrad Scientific Research Veterinary Institute)

"Concerning the problem of toxicity of dithiophos"

Veterinariya, vol. 39, no. 7, July 1962 pp. 84

GUSEV, V.F.; STEPENIKOV, A.A.; BAJMURIN, A.F.; MOTRICH, T.A.; VIL'NER, E.A.

Response to our opponents. Veterinariia 41 no.12:76-77. p. 14.

(MIRA 12:77)

• Leningradskiy nauchno-issledovatel'skiy veterinarnyy institut.

SHUBIK, M.A., inzh.; FRIKKE, S.A., inzh.; ROZENFEL'D, N.B., inzh.; MOTRIY, D.Ya.,
inzh.; MATVEYEV, Yu.M., doktor tekhn.nauk

Producing tubes of economical section on pilger mills. Stal' 23 no.4:
346-348 Ap '63. (MLA 1684)

Ural'skiy nauchno-issledovatel'skiy trubnyy institut i Chelyabinskij
truboproykatnyy zavod.

(Pipe mills)

L 25055-65 EEO-2/EWT(d)/FS5-2/EWT(1)/EED-2 Po-4/Pq-4/Pg-4/Pk-4/P1-4
IJP(c) BC

ACCESSION NR: AT5003217

8/3124/63/001/000/0090/0094

42
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B1

AUTHOR: Motrokhin, Yu. M.

TITLE: Some problems in the dynamics of programmed control systems utilizing step-by-step motors

SOURCE: Moscow. Universitet druzhby narodov. Trudy, v. 1, 1963. Teoreticheskaya mehanika (Theoretical mechanics), no. 1, 90-94

TOPIC TAGS: step type motor, discrete control, programmed control, control system, rotor motion, electric motor

ABSTRACT: The motion of the rotors of step- by-step motors, recently coming into wide use in discrete systems of automatic control, seems to be uneven within the bounds of a single step (see, e.g., B. O. Sigov, AN USSR, Avtomatika, 1959, No 4). This leads to dynamic loads within the object under control which are often undesirable or even impermissible. The author discusses the feasibility of stable uniform rotor rotations within a step-type reactive motor with commutating stator windings. The rotor is assumed to be passive. Uniform rotor motion results from the inclusion into the control circuit of a computer which calculates the control

Card 1/2

L 25055-65

ACCESSION NR: AT5003217

voltage on the basis of the information about the actual state of the motor arriving through the feedback loop. The computer also controls the frequency of the pulse sequence and gives the stop order. The resulting theoretical equations show that the unperturbed motion of the rotor is stable in the Lyapunov sense relative to the angular velocity of rotation. Orig. art. has: 17 formulas and 2 figures.

ASSOCIATION: Universitet druzhby narodov imeni Patrisa Lumumby, Moscow (Peoples friendship university)

SUBMITTED: 00

ENCL: 00

SUB CODE: IE, NG

NO REF BOV: 002

OTHER: 000

Card 2/2

L 18915-66 ENT(1)/ENT(2)/ENT(3)-2/T DM
ACC NR: A86006678 (N) SOURCE CODE: UR/9008/65/000/273/0002/0002
AUTHOR: Motrokhov, A. (Rear admiral, Chief navigator of the naval fleet)
ORG: none

28

B

TITLE: Navigation in the atomic age

SOURCE: Krasnaya zvezda, no. 273, 1965, 2, col. 1-6

TOPIC TAGS: nuclear submarine, guided missile submarine, navigator training,
ship navigation

ABSTRACT: Problems confronting the navigator on atomic submarines are enumerated.
In addition to the traditional engineering and military disciplines, the navigator
must know practical and theoretical astronomy, hydrography, hydroscopy, earth mag-
netism, hydrometeorology, geodesy, oceanography, and topography of the ocean floor.
Missile launching from submerged atomic submarines at unseen targets requires radi-
cally new navigational hardware and technique. The problem of submarine navigation
at the higher latitudes, where magnetic and gyrocompasses fail, is stressed.

SUB CODE: 17/ SUBN DATE: 00/ ORIG REF: 000/ OTH REF: 000.

Card 1/1 mc

L 45662-66 ENT(m)/E/F(t)/ETI IJP(c) JD
ACC NR: AP6025460

SOURCE CODE: UR/0080/66/039/007/1471/1475

AUTHOR: Marchenko, N. A.; Motrokhova, A. N.; Doroshev, V. D.

ORG: Khar'kov Polytechnic Institute imeni V. I. Lenin (Kharkovskiy politekhnicheskiy institut)

TITLE: Rapid process for deep anodizing of aluminum alloys

SOURCE: Zhurnal prikladnoy khimii, v. 39, no. 7, 19⁶⁶, 1471-1475

TOPIC TAGS: anodic oxidation, metal oxidation, metal coating, corrosion protection

ABSTRACT: An intensified method of deep anodizing of commercial samples of aluminum and aluminum alloy is described. The method is based on the application of diminishing electrical power and high initial current density (15-18 A/100 cm²). During the anodic oxidation experiments, the temperature was 15-20°C and the concentration of the sulfuric acid electrolyte was 170-180 g H₂SO₄/l. The dependence of the oxide layer thickness (0-100 μ) on aluminum and aluminum alloy samples upon anodizing time (0-30 min) is graphed. The microhardness and porosity of the oxide layers is tabulated. It was found that the quality of oxide layers produced by the intensified method is as good as that produced by the standard method. It was also found that aluminum alloy pistons anodized by the intensified method substantially improved performance in internal combustion engines. Orig. art. has: 4 figures, 2 tables.

SUB CODE: 07/ SUBM DATE: 15Jun64/ ORIG REF: 002/ OTH REF: 002
Card 1/1 fv UDC: 541.130

ACC NR: AR6035359

SOURCE CODE: UR/0271/66/000/009/A019/A019

AUTHOR: Motrokhin, Yu. M.

TITLE: Experimental investigation of a universal functional converter with three inputs

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika, Abs. 9A127

REF. SOURCE: Tr. Kazansk. aviats. in-ta, vyp. 87, 1965, 108-114

TOPIC TAGS: functional converter, control circuit, computer input unit

ABSTRACT: The author considers briefly the advantages and shortcomings of various types of universal functional converters (UFC). The block diagram of one possible construction of a UFC with three inputs is described and the results of an investigation of such a UFC are given. The considered method of constructing 3-input UFC results in a circuit whose instrumental error in the static mode does not exceed $\pm 5\%$ of the maximum value of the function. The dynamic properties of such a UFC are determined essentially by the elements used in the control circuit. 4 illustrations. Bibliography, 1 title. O. Sh. [Translation of abstract]

SUB CODE: 09

Card 1/1

UDC: 621.398.694:621.376

MOTROKIN, YU, V.

Grapes

"Buitur" grape. Sad i og., no. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, _____ 1953, Unclassified.

MARKELOVA, Ye.M., kand. sel'skokhoz. nauk; MOTROSHILOV, F.M., agronom

Controlling the apple sucker. Zashch. rast. ot vred. i bol. 7
no. 9:53 S '62.
(MIRA 16:8)

1. Plodoovoshchnoy institut imeni I.V. Michurina, Michurinsk.
(Korocha' District—Apple sucker—Extermination)

ZEMNIYEK, Ivan Ivanovich [Zemnieks, J.]; DZERVE, P.P., kand. ekonom. nauk,
nauchnyy red.; MOTROV, A.A., kand. sel'khoz. nauk, nauchnyy red.;
LEVI, S., red.; ZHUKOVSKAYA, A., tekhn. red.

[Communal animal husbandry and feed supply in Latvia] Obshchestvennoe
zhivotnovodstvo i kormovaia baza kolkhozov Latviiskoi SSR. Riga,
Izd-vo Akad. nauk Latviiskoi SSR, 1957. 167 p. (MIRA 14:11)
(Latvia—Stock and stockbreeding)

GOLOVAN', Emiliy Timofeyevich[Holovan', E.T.]; STARINETS, Valeriy Sergeyevich [Starynets', V.S.]; IVANOV-MUROMSKIY, Kirill Aleksandrovich; MOTruk, R.I., red.

[Machine penetrates into the mysteries of the brain; modeling of emotions] Mashyna pronikaiet v taimnytsi mozgu; modeliuvannia emotsiiv. Kyiv, Naukova dumka, 1965. 127 p.

(MIRA 19:1)

MOTS, A.B.

Distribution of production in the U.S.S.R. and the role of railroad
transportation. Zhel. dor. transp. 37 no.8:49-55 Ag '55.

(Industries, location of) (Railroads) (MIRA 12:8)

MOTS, D.

Theory, design, and utilization of hydrocyclones (from "Gazeta
cukrownicza," no.2, 1959). Sakh.prom. 33 no.9:69-74 S '59.
(MIR 13:1)
(Separators (Machines))

MOTS, T. A.

Mots, T. A. "Methods of working on the phonetic analysis of the French language in the faculty of foreign languages." Moscow City Pedagogical Inst imeni V. P. Potemkin. Moscow, 1956. (Dissertation for the Degree of Candidate in Pedagogical Science)

So: Knizhnaya letopis', No. 27, 1956. Moscow. Pages 94-109; ill.

KOTSAK, A.S., kand.med.nauk

Simple and precise method for determining vitality and approach of death in asphyxia neonatorum. Akush.i gin. 34 no.3:93-94 My-Je '58.
(MIRA 11:6)

1. Iz Smol'ninskogo rodil'nogo doma (glavnnyy vrach Ye.M.Tarasova),
Leningrad.

(ASPHYXIA NEONATORUM, physiol.

pupil reaction as sympt. of approaching death (Rus))

(PUPILS, in var. dis.

asphyxia neonatorum, determ. of approaching death
(Rus))

MOTSAK, A.S., kand. med. nauk

Treatment of umbilical prolapse. Akush. i gin. no.1:141 '65.

1. Rodil'nyy dom No.1 Smol'ninskogo rayona Leningrada (glavnyy
vrach Ye.M. Tarasova).

MOTBAREV, G. V.

"Preparation and the Properties of Chlorophenylsilane Chlorides and Chlorobenzenepolysiloxanes," Sub f No. 51, Inst of Organic Chemistry, Acad Sci USSR.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sub. No. 480, 9 May 55

Chemical Abst.
Vol. 48 No. 6
Mar. 25, 1954
Organic Chemistry

Peculiarities of bromination of phenyltrichloroethane,
A. Ya. Yakubovich and G. V. Motalev, Zhar. Osnovnoj
Khim., 73, 812-77 (1947). (Abstract, 1947, 10, 507). Br to 100 g.
 PbSiCl_3 and 0.8 g. powd. Fe over 1.5-2 hrs. causes an exo-
thermic reaction (60°); after 1 hr. on the steam bath and
air-blowing, the mixt. gave 26.3 g. PbSiCl_3 and 69% $\rho\text{-BrC}_6\text{H}_4\text{SiCl}_3$, b. 103-9° (after redistn. b. 103-8°, d₄ 1.6771);
heating with Br water 6 hrs. at 150-80° gave $\rho\text{-Br}_2\text{C}_6\text{H}_4$.
If the amt. of Br is doubled, the reaction yields 4% $\rho\text{-C}_6\text{H}_4\text{Br}$,
some 10.5 g. residue of polymeric $(\text{C}_6\text{H}_5\text{BrSiO}_1)_n$,
some 10 g. $\rho\text{-BrC}_6\text{H}_4\text{SiCl}_3$, and 122 g. (70%) $\pi\text{-Br}_2\text{C}_6\text{H}_4\text{SiCl}_3$, b. 144-6°, d₄ 1.8502 (heated with Br water as above
this gave 1,2,4-C₆H₃Br, m. 44°, while heating with AlCl₃
gave m-C₆H₃Br, b. 220°, d₄ 1.9694. The use of 3.25 moles
Br in the above reaction (completed at 75-80°) gave
 $\text{C}_6\text{H}_5\text{Br}_2$, $\text{Br}_2\text{C}_6\text{H}_4\text{SiCl}_3$, and decompo. products. Similarly
unsuccessful was the attempted bromination of 2,4-Bri-
 $\text{C}_6\text{H}_4\text{SiCl}_3$ in the presence of Fe or SbCl₃, as $\text{C}_6\text{H}_5\text{Br}$, m.
178-9° (apparently the 1,3,4,5-isomer) was the sole product,
besides tar. The π,ρ -orientation by the SiCl₃ group was un-
expected.

G. M. Kosolapoff

MOTSALEV, G. V.

Peculiarities of bromination of phenylrich chloroallenes. A
Yu. Yakubovich and G. V. Motsev, J. Gen. Chem.
U.S.S.R. 23, 121-5 (1953) (translated).—See C.A.
48, 32364. H. L. H.

USSR/Chemistry - Silicon Organic
Compounds

"Formation of Organo-Metallic Compounds During the
Reaction Between Aromatic Silanes and Metallic
Chlorides. I. The Formation of Organo-Aluminum
Compounds During the Reaction of Organo-Aluminum
Chlorosilanes and AlCl_3 ," A. Ya. Yakubovich and

G. V. Motsarev
Zhur Obshch Khim, Vol 23, No 5, pp 771-776
Studied the reaction between aluminum trichloride
and phenyltrichlorosilane, diphenyldichlorosilane,

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and their derivs -- p-chloro- and p-bromo- and p-bromophenyl-
trichlorosilanes and (p-chlorophenyl)-phenylchlorosilane.
Studied the effect of the phenylidichloro-
aromatic nucleus on the course and results in the
transformations. Demonstrated by a series of
arylichlorosilanes of products of the reaction of
arylichlorosilanes and AlCl_3 that the reaction of
organo-aluminum compounds are the intermediate
mediates with CH_3COCl . By treating these inter-
mediates with CH_3COCl or PCl_3 the corresponding
arylidchloroketones and aryldichlorophosphines were
obtained. Pointed out the possibility of using the
reactions of arylchlorosilanes and their derivs

(2)

with AlCl_3 for the synthesis of various organo-
elemental compds analogous to those described
under phosphine synthesis.

MOTSAREV, G. V.

Formation of metalloorganic compounds in the reaction of aromatic silanes with metallic chlorides. I. Formation of aluminum organic compounds in the reaction of phenylchlorosilanes with aluminum chloride. A. Ya. Yakubovich and G. V. Motsarev. *J. Gen. Chem. U.S.S.R.* 23, 805-9 (1953) (Engl. translation). See *C.A.* 48, 44634. H. L. H.

MOTSAREV, G. V.

USSR/Chemistry - Silicon Organic
Compounds Jun 53

"Concerning the Formation of Organometallic Compounds by the Interaction of Aromatic Silanes With Metal Chlorides. III. Formation of Iron-Organic Compounds on Interaction of Phenylchlorosilanes with Ferric Chloride," A. Ya. Yakubovich and G.V. Motsarev

Zhur Obsch Khim, Vol 23, No 6, pp 1059-1063

Studied the reaction of ferric chloride with phenyltrichlorosilane (I) and with diphenyldichlorosilane (II). It was found that II, in contrast to I,

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reacts very readily with FeCl_3 , splitting off one phenyl radical. Discusses the reaction mechanism for the splitting of II with ferric chloride, assuming the formation of unstable org iron compds as intermediate products.

273T28

U S S R .

✓Formation of organometallic compounds in the reaction of
aromatic allenes with metallic chlorides. II. Formation
of organo-iron compounds in the reaction of phenylchloro-
allene with ferric chloride. A. Ya. Yakubovich and G. V.
Motzarev. *J. Gen. Chem. U.S.S.R.* 23, 1111-14 (1953)
(*Atom* translation).—See C.A. 48, 8187a. H. L. H.

USSR/Chemistry - Silicon Organic Compounds Aug 53

"The Formation of Metal-Organic Compounds by the Reaction Between Aromatic Silanes and Metal Chlorides. III. The Formation of Antimony Organic Compounds by the Reaction between Phenylchlorosilanes and SbCl₅, A. Ya. Yakubovich and G. V. Motsarev

Zhur Obshch Khim, Vol 23, No 8, pp 1414-1417

Studied reactions of phenyltrichlorosilane, diphenyldichlorosilane and its o,p'-dichloro deriv with both SbCl₅ and SbCl₃. Found that the secondary

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chlorosilanes are readily split with SbCl₃ to form primary trichlorosilane and SbCl₃, and that the aryl radical which has been split off is converted to the chloro deriv.

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(CA 47 no.22: 12181 'j3)

MOTSAREV, G. V.

USER/Chemistry - Phosphorus Organic Compounds Sep 53

"Synthesis of Organoelemental Compounds of the Aromatic Series by the Reaction of Aryl Silanes with Aluminum Chloride and Halides of Various Elements. I. Organophosphorus Compounds," A.Ia. Yakubovich and G.V. Motsarev

Zhur Obshch Khim, Vol 23, No 9, pp 1547-1552

The reaction of PCl_3 with organoaluminum compounds (obtained by the reactions of arylchlorosilanes with AlCl_3) produced primary arylchlorophosphines with good yields. This method can also be used to

268T32

obtain aryl dichlorophosphines contg in the ring substituents like Cl, Br, and CH_3 . PCl_5 on reacting with phenyltrichlorosilane and AlCl_3 , forms phenyltetrachlorophosphine, which is readily converted to the acid chloride of phenylphosphonic acid. Unlike PCl_5 , phosphorus oxychloride does not produce compds with the C-P bond in an analogous reaction.

268T32

MOTSAREV, G.V.

CATALYSTS

C.A. V-48
Jan 10, 1954
Organic Chemistry

Formation of phuminodimic compounds in the reaction of phenylidochloranes with aluminum chloride. A. Ya. Vaynshtick and G. V. Motsarev. Doklady Akad. Nauk S.S.R. 88, 57-9 (1953). Treatment of PhSiCl₃ with AlCl₃ at 30-5° gave 50% SiCl₄ and apparently PhAlCl₃. Since treatment of the product with H₂O gave C₆H₆, with AcI gave AcPh, and with PCl₅ gave PhPCl₃ in yields of 55%, 75, and 83.4%, resp. PhSiCl₃ reacts with AlCl₃ also at room temp. but the products depend on proportions of reagents. At 1:1 molar ratio, treatment with H₂O yields 38% C₆H₆ and 65% polymer (from hydrolysis of PhSiCl₃). 1:2 PhSiCl₃-AlCl₃ yields 60% SiCl₄ and 61.2% C₆H₆. Similarly, ρ -ClC₆H₄SiCl₃ gave 53% ρ -ClC₆H₄Ac, and 77.4% ρ -ClC₆H₄PCl₃, resp., while ρ -BrC₆H₄SiCl₃ gave 72.0% ρ -BrC₆H₄PCl₃. (ρ -ClC₆H₄)₂SiCl₂ with 1 mole AlCl₃ gave PhCl and the polymer from hydrolysis of PhSiCl₃, indicating that the halogenated Ph group is the first to be cleaved. G. M. Kostlapoff

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MOTSAREV, G. V.

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Peculiarities of halogenation of phenylchlorosilanes.
Yu. Yakubovich and G. V. Motserov. *Indus. Akad. Nauk S.S.R.*, 01, 277-30 (1953).—The chlorination and bromination of PhSiCl₃ and Ph₂SiCl₂ were examined. Cl or Br and PhSiCl₃ in the presence of catalysts (Fe, AlCl₃, iodine, SiCl₄) react energetically with formation of the corresponding halogenated derivs. Under different temps. and reagent ratios it is possible to isolate the entire series from mono- to penta-Cl derivs. (cf. U.S.S.R. author certif., 77,730(1949); 78,408(1949)), while Br gives readily only mono- and di-Br derivs. In the chlorination of Ph₂SiCl₂ the only bishalogen subs. stage formed is the mono-Cl deriv.; more extensive reaction gives difficultly separable mixts. of di-hexam-Cl derivs. No halogenation occurs without catalysts even at 200° with either PhSiCl₃ or Ph₂SiCl₂. The reactions are accompanied by a side reaction which depends on the catalyst. This side reaction, involving cleavage of the C-Si link, is named destructive halogenation and is more pronounced with Ph₂SiCl₂. Thus with PhSiCl₃ and AlCl₃ it occurs to a noticeable extent (other less active catalysts are ineffective), but with Ph₂SiCl₂ it occurs also with FeCl₃ and SiCl₄. The extent of this reaction also depends on the halogen, being more pronounced in polybromination than in polychlorination. The products are halogenated benzene derivs. and the corresponding halosilane derivs. Iodine as a catalyst does not produce this side reaction. The products were identified by hydrolysis with Br water and treatment with AlCl₃ (cf. *C.A.* 48, 1430). The halogenation of PhSiCl₃ yields exclusively the *p*-Cl(or Br)C₆H₅ deriv. although *m*-orientation would be expected; 2,4-dihalo derivs. are formed in the 2nd step. As the no. of halogen atoms in the ring increases the cleavage of C-Si link with Br water becomes more difficult (PhSiCl₃ reacts at 100°, the mono-Cl deriv. at 140-160°, higher halo derivs. incompletely even at 250°). No cleavage occurs with dry Br and Ph₂SiCl₂, even at 140-160°. H₂O is essential for this reaction. The halo-substituted products are distillable *in vacuo* and are isolated in 1-3% yield. (G. M. Kostylev)

Motsarev, G. V.

USER/ Chemistry - Metal halides

Card 1/1 Pub. 22 - 34/63

Authors: Yakubovich, A. Ya., and Motsarev, G. V.

Title: Effect of metal halides on the change in orientation of the silyl chloride group and the mechanism of their dearylation effect.

Periodical: Dok. AN SSSR 99/6, 1015-1018, Dec 21, 1954

Abstract: Experiments show that the SiCl_3 -group in phenyltrichlorosilane, due to its electron-acceptor properties, should serve as an orientation factor of the second order and should direct other substitutes into meta-position with respect to itself causing thereby a general deactivation of the benzene nucleus during reactions of electrophilic substitution. The so-called dearylation effect of various metal chlorides, with respect to phenylchlorosilanes, is explained. The specificity of reactions leading to the displacement of aromatic silanes in the presence of metal halides is explained by the formation of specific addition compounds of arylchlorosilanes with metal halides. Nine references: 6-USSR; 2-German and 1-USA (1900-1954).

Institution:

Presented by: Academician I. L. Knunyants, July 15, 1954

14-1544-60, G.R.

✓ Effect of the nature of catalyst on the course of reaction of
destructive halogenation of phenylchlorosilanes. A. Ya.
Yakubovich and G. V. Motarev. J. Gen. Chem. U.S.S.R.
25, 1701-4 (1955) (Eng. translation). See C.A. 50, 5692.
B. M. R.

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YAKUBOVICH, A.Ya.; MOTSAREV, G.V.

Effect of the nature of the catalyst on the flow of the destructive
halogenation of phenylchlorosilanes. Zhur. ob. khim. 25 no.9:1748-1752
S '55. (Halogenation) (Silanes) (MIRA 9:2)

Motsarev, G. V.

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Chem / Halogenation of aromatic silanes. I. Preparation and properties of chloro derivatives of phenyltrichlorosilane.
A. Ya. Yakutovich and G. V. Motsarev. *J. Gen. Chem. U.S.S.R.* 26, 611-18 (1956) (Eng. translation).—See *C.A.*, 50, 13784c.

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Motsarev, G. V.

3
chem

Halogenation of aromatic silanes. I. Preparation and properties of chloro derivatives of phenyltrichlorosilane.
A. Ya. Yakubovich and G. V. Motsarev. Zhur. Obscheshch. Khim. 26, 608-70 (1956). Chlorination of PhSiCl₃ in the presence of the usual catalysts (FeCl₃, AlCl₃, SnCl₄, iodine) yields the entire spectrum of chlorinated products through the pentachloro deriv. Thus 16 g. PhSiCl₃ and 0.075 g. powd. Fe chlorinated at 80-70° 40 min. (wt. gain 2.7 g.) gave 73.5% *p*-ClC₆H₄SiCl₃ (I), b₇ 84-9°, b₇ 87-8° (pure), d₄ 1.4062, and a little *Ch*C₆H₄SiCl₄ (II), b₇ 101-4°. In the presence of iodine at 60-75° only 0.5% I formed when 0.75% iodine was used, but with 3% iodine the yield was 65%, along with 20% II. Chlorination at 70° with 0.5% Fe until somewhat over 2 Cl atoms had been substituted, gave 70% II, b₇ 102-3°, d₄ 1.4320, which cleaved with AlCl₃ to *m*-C₆H₄Cl₂, thus indicating that II is the 2,4-dichloro deriv. Chlorination of I similarly gave 72% II. Chlorination of PhSiCl₃ in the presence of 0.5% Fe at 70-5° 2 hrs. gave 60.4% 2,4,6-Cl₃C₆H₃SiCl₂ (III), b₇ 117-18°, d₄ 1.5651; with 0.2% AlCl₃ catalyst at 50-5° there was formed appreciable SiCl₄, some C₆H₄Cl₄, m. 115-25°, and 55% II. The use of SbCl₃ (0.3%) at 75° gave about 90% III, along with some tetra-Cl deriv. Chlorination of PhSiCl₃ with 0.5% Fe at 100°, finally at 120-6° gave 23.8% 2,3,4,6-Cl₄C₆H₂SiCl₂, b₇ 125-6°, d₄ 1.6340, and 53.8% *Ch*C₆H₄SiCl₄, b₇ 140-7°, m. 59.8°. G. M. Kiselevoff

MOTSAREV, G.V.

300
Halogenation of aromatic silanes. II. Preparation and properties of chloro derivatives of diphenyldichlorosilane.
A. Yu. Yakubovich and G. V. Motsarev. Zhur. Obshch. Khim. 26, 1413-25 (1956); cited 30, 127-84c. Chlorination of 20 g. Ph₂SiCl₂ and 0.04 g. SbCl₃ at 35-40° until 3 g. wt. gain was reached gave on distn. 72.7% *p*-ClC₆H₄Si-PhCl₂, b₁ 160-2°, d₂₀ 1.3190 (confirmed by formation of *p*-PhCl₂C₆H₄Br on heating with Br-water); some crude ClC₆H₄SiCl₂ also formed in chlorination; this b₁ 60-150°, and treated with H₂O gave a Cl-contg. siloxane resin. Chlorination of 20 g. Ph₂SiCl₂ and 0.04 g. SbCl₃ at 40° 1.3 hrs. gave several fractions from which was obtained 57.5% mixed (*p*-ClC₆H₄)₂SiCl₂ and 2,4-Cl₂C₆H₃SiPhCl₂, the latter being predominant; the mixt., b₁ 175-9°, d₂₀ 1.3065; identification was done by cleavage with AlCl₃ and with Br water. Chlorination of 15 g. Ph₂SiCl₂ and 0.045 g. SbCl₃ at 55° 1.0 hrs. gave similarly 50% mixed (2,4-Cl₂C₆H₃(4- and 3-ClC₆H₄)SiCl₂, b₁ 194-200°, d₂₀ 1.4920 (confirmed as above), and some tetra-Cl deriv., b₁ 200-11°. A similar chlorination finally at 70-8° gave mixed (2,4-Cl₂C₆H₃)₂SiCl₂, (2,4,6-Cl₃C₆H₃(3-ClC₆H₄)SiCl₂, and (2,4-Cl₂C₆H₃(3,4-Cl₂C₆H₄)SiCl₂, m. 89-93°, b₁ 210-14°, along with less and more highly chlorinated products. Continued chlorination to 80-8° final temp. gave 45% total chlorinated products which yielded mixed 2,4,5,6'-4', 2,4,6,3',5"-, 2,4,6,7',4'-pentachlorodiphenyldichlorosilanes, b₁ 220-4°, d₂₀ 1.6233, and mixed 2,4,5,3',4',5", 2,4,6,3',4',5"-, and 2,4,6,7',4',6'-hexachlorodiphenyldichlorosilanes, b₁ 231-5°, d₂₀ 1.5901. G.M.K.

MOTSAREV, G. V.

Halogenation of aromatic hydrocarbons. II. Preparation and properties of chloro derivatives of diphenylmethane
A. Ya. Yatsubova and G. V. Motsarev, J. Russ. Chem.
U.S.S.R. 30, 1583-1593 (1957) (English translation). See
C.A. 50, 146054.

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Mot-Sanev, G. V.

✓ Halogenation of aromatic silanes. III. Preparation and properties of chloro and bromo derivatives of benzyltri-chlorosilane. G. V. Mot-Sanev and A. Yu. Yakubovich, Zhur. Obshch. Khim. 20, 2022-30(1950); C.A. 44, 37000, 59, 217d, 14605k. Passage of 5.7 g. Cl over 1.5 hrs. into 20.6 g. PhCH₂SiCl₃ and 0.1 g. SbCl₃ at 50-70° gave a range of products including 71.7% *p*-ClC₆H₄CH₂SiCl₃, b.p. 123-5°, d₄ 1.3005 (oxidation with 20% HNO₃ gave 4-chloro-3-nitrobenzoic acid). Doubling the input of Cl under the same conditions gave 64% probably 2,4-Cl₂C₆H₄CH₂SiCl₃, b.p. 152-4°, d₄ 1.4941, while trebling the input of Cl gave 53.1% 2,4,6-Cl₃C₆H₂CH₂SiCl₃, b.p. 169-71°, d₄ 1.5740; correspondingly deeper chlorination gave 60.4% 2,3,4,6-Cl₄C₆H₃SiCl₃, b.p. 106-8°, d₄ 1.6380, the latter stage of chlorination requiring 95-100%. Similarly was prep'd. 53.4% Cl₃C₆H₄SiCl₃, b.p. 180-7°, m. 80-0°. PhCH₂SiCl₃ (19.5 g.) and 0.1 g. SbCl₃ with 16 g. Br with a final 20 min. at 70° gave 90.5% *p*-BrC₆H₄CH₂SiCl₃, b.p. 137-8°, d₄ 1.6070; a larger amt. of Br gave similarly 70% 2,4-Br₂C₆H₄CH₂SiCl₃, b.p. 180-73°, d₄ 1.8873; deeper bromination, completed at 90-5° gave 60.7% 2,4,6-Br₃C₆H₃SiCl₃, b.p. 106-0°, d₄ 2.1200; a still larger amt. of Br gave 60% 2,3,4,6-Br₄C₆H₂SiCl₃, b.p. 220-2°, d₄ 2.2510, while complete bromination, terminated by 3 hrs. at 110-20° gave 62.1% Br₄C₆H₂SiCl₃, b.p. 233-5°, m. 120-1°. Powd. Fe can be used in place of SbCl₃ as catalyst. Chlorination of 18 g. PhCH₂SiCl₃ at 100° 8 hrs. with 30.4 g. Cl added gave some 89% *p*-ClC₆H₄CH₂SiCl₃.

G. M. K.

MOTSAREV, G.Y.

Chloro derivatives of alkyl- and alkyldaryl silanes having
chlorine atoms in the silastic radical. G. V. Motsarev,
A. T. Ermilin, and A. Ya. Yakubovich. U.S.S.R. 105,000.
Aug. 25, 1957. The title compds. are obtained by
chlorination of alkyl- and alkyldarylchlorosilanes with gaseous
Cl₂ in the presence of catalyst. As such is used (NCC-
MeN).
M. Hirsch

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1-4E4
1-4E3
R3
R5

MOTSAR C.V.
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Benzil, O. V. Morozov, A. I., Englin, I. N., Uspenskaya,
and N. G. Ivashov, U.S.S.R. 105,341, Apr. 25, 1957. 4E4f
Benzil is obtained by reaction (PhCCl₂)₂ with 70-90%
H₂SO₄ at 120-170°. M. Houch

PM AMF

G.V. Matsarev

Distr: 4E1,j/4E2c(j)/4E3d

Halogenation of aromatic silanes. IV. Preparation and properties of chloro and bromo derivatives of α -polysilanol chlorosilane. G. V. Matsarev and A. Ya. Yakubovich. Zhur. Obshchei Khim. 27, 1318-30 (1957); cf. C.A. 52, 3286d; 51, 4982e. Chlorination of 20 g. α -Me $C_6H_5SiCl_3$ (I) and 0.1 g. $SbCl_3$, 1 hr., 40 min., at 22-50° to 2.9 g. wt. gain gave 84.7% $Me_2C_6H_4SiCl_3$ (II), bp. 130-7°; purer product, b.p. 132-3°, d₄²⁰ 1.3948. Heated with Br_2H_2O in a sealed tube it gave 73% $MeCl_2BrC_6H_4$, which oxidized with $K_2Cr_2O_7-H_2SO_4$ to 81.4% 2-chloro-4-bromobenzoic acid, showing that the silane was the *m*-chloro-*p*-tolyl deriv. Further chlorination of I as above, finally at 68-70°, until a 20 g. sample gained 6 g. gave 16.2 g. $MeCl_2C_6H_4SiCl_3$, bp. 160-6°, bp. 161-4°, d₄²⁰ 1.0126, probably a mixt. of 3,5- and 3,6-dichloro derivs. Further chlorination to 8.8 g. gain gave from a 20 g. sample of I 20.8 g. $Cl_2MeC_6H_4SiCl_3$, bp. 108-72°, m. 44-7°, a probable isomer mixt. Attempts to induce deeper chlorination at 95-100° resulted in wt. gain of but 10.4 g. and gave some pentachlorotoluene, m. 218-19°, tetrachlorotoluene, m. 100-10°, and trichloro derivs. of I, isolated in part as polysiloxanes after pg. treatment. Chlorination of 20 g. I without catalyst at 22-5° 16 hrs. gave no wt. gain; continuation at 52-8° 13 hrs. gave 4.8 g. II mixed with its $Cl(C_6H_5)_2$ analog, bp. 130-3°, d₄²⁰ 1.4120. Redist. gave 7 g. $Cl(C_6H_5)C_6H_4SiCl_3$, bp. 185-7°, d₄²⁰ 1.4645 (with Br_2H_2O this gave after oxidation with $K_2Cr_2O_7$ 2-chloro-4-bromobenzoic acid). Adding 17.6 g. Br_2 to 22.2 g. I and 0.1 g. powd. Fe and heating slowly 20 min. to 60° gave 80.6% $J_4-Br_2C_6H_4SiCl_3$, bp. 130-7°, d₄²⁰ 1.0320, which slowly crystallized with Br_2H_2O it gave a dibromoethane, b.p. 230-40°, which oxidized to 2,4-dibromobenzoic acid, m. 171-3°. Similar bromination of I but with a double proportion of Br gave 28.1 g. dibromo I, bp. 163-6°, m. 58-63°, which treated with

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G.V. MOTSAREV A.YA. YAKUBOVIC

$\text{Br}-\text{H}_2\text{O}$, followed by oxidation, indicated the presence of various isomers, probably 3,5- and 3,6-dibromo-I. Attempts to induce deeper bromination with more Br and higher reaction temp. (90°) gave SiCl_3Br and mixed tetra- and pentabromotoluenes, along with some tribromotoluenes. An aq. treatment of the residues gave a polysiloxane based on dibromo-I. When 13.6 g. Br was added in 1.5 hrs. to 19.2 g. I and the mixt. heated 12.5 hrs. at $90-5^\circ$ there was obtained 10 g. $3,4-\text{Br}(\text{BrCH}_3)\text{C}_6\text{H}_3\text{SiCl}_3$, bp. $148-50^\circ$, d₂₅²⁰ 1.6353, confirmed by treatment with $\text{Bi}-\text{H}_2\text{O}$ followed by oxidation.

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MOTSAREV, G.V.; YAKUBOVICH, A.Ya.

Halogenation of aromatic silanes. Part 5: Formation and properties
of chlorobenzyl- and chlor -H - tolyltrichlorosilanes containing
chlorine in the aliphatic part of the radical. Zhur. ob. khim. 27
no.10:2786-2790 O '57.
(silane) (Halogenation)

AUTHORS:

Motsarev, G. V., Englin, A. L.,
Yakubovich, A. Ya., Uspenskaya, I. N.
Ivanova, N. G.

79-28-5-51/69

TITLE:

On the Catalytic Chlorination of
Methylchlorosilanes in the Liquid-Phase
(O zhidkofaznom kataliticheskom khlorirovani
metilkhlorosilanov)

PERIODICAL:

Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 5,
pp. 1336-1338 (USSR)

ABSTRACT:

The chlorination of organosilicon compounds in the presence of azodinitrile of isobutyric acid is not described in publications. It was therefore of interest to try this method of chlorination in the synthesis of chloromethylchlorosilane. It could be expected that such a chlorination of the methylchlorosilanes had to take place at the given chain mechanism and had to lead to the formation of all kinds of substitution products in the methyl group. It was actually found that in chlorination on the given conditions (see table), in

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On the Catalytic Chlorination of the
Methylchlorosilanes in the Liquid Phase

dependence on the mol ratio of the methylchlorosilane and chlorine, the whole range of chlorine derivatives CH_3SiCl_3 , $(\text{CH}_3)_2\text{SiCl}_2$ and $(\text{CH}_3)_3\text{SiCl}$ with the chlorine atoms in the methyl groups can be obtained as is the case in the photochlorination of the methylchlorosilanes. As it must be taken into account that the chlorine of the methyl group of silane increases its further substitution velocity in chlorination, the catalytic liquid-phase chlorination for the purpose of the synthesis of the monochlorine derivatives must take place in such a way that a sufficient amount of the methylchlorosilane which had not entered reaction remains. Thus the reaction liquid-phase chlorination of methylchlorosilanes - CH_3SiCl_3 , $(\text{CH}_3)_2\text{SiCl}_2$ and $(\text{CH}_3)_3\text{SiCl}$ was investigated in the presence of azodinitrile of isobutyric acid and it was found that in this case, dependent on the mol ratio of silane and chlorine, a whole number of chlorine derivatives containing chlorine in the methyl group can be obtained.

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Methylchlorosilanes in the Liquid-Phase

79-28-5-51/59

There are 1 table and 7 references, 4 of which are Soviet.

SUBMITTED: September 8, 1957

Card 3/3

AUTHORS:

Motsarev, G. V., Yuzubovich, A. Ya.

Sov. Inv. 22, No. 22, 1973

TITLE:

Halogenation of Aromatic Silanes (Galosilirivniki i silane s ticheskimi silanov) VI. Synthesis and Properties of the Chlorine Derivatives of p-(Trichloro-Methyl)Phenyl Trichloro-Silane (VI. Polucheniye i svoystva khloropribavlenii p-(trikhlormetil)feriltrikhlersilana)

PERIODICAL:

Zhurnal obshchey khimii, 1973, Vol 23, Nr 10,
pp 2727 - 2732 (USSR)

ABSTRACT:

Earlier the authors showed that the introduction of the oriented methyl group into the molecule of phenyl trichlorosilane leads to a certain activation of the aromatic nucleus (Ref 1). It was of interest to find out in which way other oriented groups in the molecule of phenyl trichlorosilane, as for inst. Se, CCl_3 and CF_3 , would react to its chlorination. The chlorination of p -(trichloro-methyl)methyl trichlorosilane and p -(trifluoro-methyl)methyl trifluoromethyl was carried out for the first time. As it is known, the CCl_3 or CF_3 is a meta-oriented substituent. As the meta-oriented

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Halogeneration of Aromatic Silanes. VI. Synthesis and
Properties of the Chlorine Derivatives of p-(Trichloro-Methyl)Phenyl
Trichloro-Silane

SIW/TP-63-1877

substituents bring the benzene nucleus into a passive position it could be expected that the presence of two meta-oriented substituents in para position in the p-(trichloro-methyl)phenyl trichlorosilane would deactivate it in a high degree. Actually the chlorination of this silane takes place without catalyst although in the case of a longer action of excess chlorine at 190-210°. Mono- and dichloro derivatives were obtained on the action of chlorine on $p\text{-CCl}_3\text{C}_6\text{H}_4\text{SiCl}_3$ in the presence of FeCl_3 .

The derivatives of this compound that are tri- and tetrachloro substituted in the nucleus could not be maintained because of the cleavage of the C-Si bond. It was found that the monochloro derivative of $p\text{-CCl}_3\text{C}_6\text{H}_4\text{SiCl}_3$ is a mixture of 2-chloro- and 3-chloro-4-(trichloro-methyl)phenyl trichlorosilane.

$p\text{-CF}_3\text{C}_6\text{H}_4\text{SiF}_3$ does not react with chlorine even at boiling temperature and in the presence of FeCl_3 . Methyl

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Halogenation of Aromatic Silanes. VI. Synthesis and SOV/70-26-10-22/6c
Properties of the Chlorine Derivatives of *p*-(Trichloro-Methyl)Phenyl
Trichloro-Silane

magnesium iodide yields the 4,4-di(trimethylsilyl)toluene dichloride with $p\text{-CCl}_3\text{C}_6\text{H}_4\text{SiCl}_3$. The table shows the influence of the reaction conditions on the composition of the products obtained in the chlorination of $p\text{-CCl}_3\text{C}_6\text{H}_4\text{SiCl}_3$. There are 1 table and 10 references, 4 of which are Soviet.

SUBMITTED: July 6, 1957

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5 (3)
AUTHORS:

Yakubovich, A. Ya., Motsarev, G. V. SCV/79-29-7-65/83

TITLE:

On the Problem of the Catalytic Halogenation of Phenyltrichlorosilane (K voprosu kataliticheskogo galoidirovaniya feniltrekhlorosilana)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 7, pp 2395 - 2400
(USSR)

ABSTRACT:

In previously published reports on the catalytic halogenation of aromatic silanes (Refs 1-4) the authors indicated that the SiCl_3 group had the character of a meta-orienting substituent, whereas later investigations showed the trichlorosilyl group to behave anomalously, with orientation towards the ortho- and para-position. In connection therewith and with opinions given in references 5-7 the authors considered it necessary to find a new method of determining the structure of the chlorine and bromine derivatives of phenyltrichlorosilane. R. A. Benkeser and A. Torkelson (Ref 8) found that phenyltrimethylsilane was split by bromine even under standard conditions in the following manner: $\text{C}_6\text{H}_5\text{Si}(\text{CH}_3)_3 + \text{Br}_2 \longrightarrow \text{C}_6\text{H}_5\text{Br} + (\text{CH}_3)_3\text{SiBr}$. In the present paper it was shown that also n- and m-chlorophenyl-

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Phenyltrichlorosilane

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trimethylsilanes reacted similarly, forming n- and m-chloro-bromobenzene respectively in high yields as well as trimethylbromosilane. On chlorinating phenyltrichlorosilane in the presence of iron to give the monochlorophenyl derivative, two fractions were obtained, boiling at 98-107° and 108.5-112° (11 mm) consisting of monochlorophenyltrichlorosilane according to analysis. Exhaustive methylation of the low-boiling fraction yielded chlorophenyltrimethylsilane. Bromine split this compound into $(\text{CH}_3)_3\text{SiBr}$ and chlorobromobenzene, a liquid crystallizing at -26°. As demonstrated in the diagram, the freezing point of the chlorobromobenzene mixture (-26°) was practically identical with that of a mixture of 95% meta- and 5% para-isomer (-25.7°). Infrared spectroscopic data indicated the same composition. On splitting the higher boiling methylated fraction of chlorophenyltrichlorosilane, which corresponded to o-chlorophenyltrichlorosilane (Ref 5), o-chlorobromobenzene was obtained. Thus, the structure of the product was verified as that of o-chlorophenyltrichlorosilane. From the above data, and from data given in the experimental part of the paper it followed that the

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chlorination of phenyltrichlorosilane in the presence of FeCl_3 proceeds with the formation of a mixture of m-, o-, and n-chlorophenyltrichlorosilane at a ratio of 75:21:4, which is consistent with data given in reference 5. These results again confirm that in the above reaction the SiCl_3 group behaves anomalously, orienting towards the ortho- and para-position. There are 1 figure, 1 table, and 15 references, 9 of which are Soviet.

SUBMITTED: April 14, 1958

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S/079/60/030/009/009/015
B001/B064

53700 2209

AUTHORS: Motsarev, G. V., Rozenberg, V. R.

TITLE: Halogenization of the Aromatic Silanes. VII. Synthesis and Properties of the Chlorine Derivates of Phenyl-methyl Dichlorosilane That Contain Chlorine Atoms in the Methyl Group

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No.9, pp.3011-3015

TEXT: On the basis of the synthesis of phenyl trichlorosilane (Ref. 1), diphenyl dichlorosilane (Ref. 2), benzyl trichlorosilane (Ref. 3), p-tolyl trichlorosilane (Ref. 4) described by A. Ya. Yakubovich and collaborators (Refs. 1-6) the authors of the present paper chose phenyl methyl dichlorosilane for experimenting, since its halogenization had hitherto not been described. The authors aimed at synthesizing its chlorine-substituted derivatives with chlorine atoms in the methyl group and in the aromatic cycle. To synthesize the derivatives with chlorine atoms in the methyl group, initiated chlorination of phenyl-methyl dichlorosilane was carried out in the presence of azo-bis-isobutyronitrile. This chlorination was expected to proceed as a chain mechanism and lead to the formation of all possible substitution derivatives in the methyl group. The degree of

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